

08/495,591


**UNITED STATES DEPARTMENT OF COMMERCE
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EXAMINER

 TADAYON 8
 ART UNIT PAPER NUMBER

2616

DATE MAILED: 03/24/97

 This is a communication from the examiner in charge of your application.
 COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

 A shortened statutory period for response to this action is set to expire 3 month(s) _____ days from the date of this letter.
 Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133
Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION
 1. ☒ Claims 1-8 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

 2. ☐ Claims _____ have been cancelled.

 3. ☐ Claims _____ are allowed.

 4. ☒ Claims 1-8 are rejected.

 5. ☐ Claims _____ are objected to.

 6. ☐ Claims _____ are subject to restriction or election requirement.

 7. ☒ This application has been filed with informal drawings under 37 C.F.R. 1.35 which are acceptable for examination purposes.

 8. ☒ Formal drawings are required in response to this Office action.

 9. ☐ The corrected or substitute drawings have been received on _____ Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

 10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

 11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

 12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received; ☐ not been received. ☐ been filed in parent application, serial no. _____; filed on _____.

 13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 O.D. 11; 402 O.G. 213.

 14. ☐ Other

EXAMINER'S ACTION

Part III DETAILED ACTION

1. In figures 1-4, "prior art" is missing.
2. In figures 1, 2, 5, the descriptive labels for the blocks in figures are missing.

Claim Rejections - 35 USC § 112

3. Claims 1-8 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See the following reasons:

- In claim 1, line 4, "[run, level]" should be changed to eliminate the use of brackets, because the use of brackets in the claims may cause confusion for printer at the time of issue. This should also be corrected for claim 1, line 10, claim 5, lines 3 and 9, and claim 8, line 32.
- In claim 5, line 35, "said the" should be changed to "by said".
- In claim 5, line 37, the use of the term "method" is vague, because it can refer to both coding and decoding "methods". This should be clarified in the claim.
- Other claims (2-4, 6-7) are dependent on claim 1.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1-8 are rejected under 35 U.S.C. § 102(e) as being anticipated by Keith.

With respect to claims 1 and 5, Keith teaches an adaptive variable-length coding method (see figure 6, column 2, lines 50-62, column 2, lines 11-40) whereby quantized orthogonal transform coefficients are scanned in a zigzag pattern (see figure 2), are modified into run, level data (see figures 2, 3A, 6) and then are variable length coded in a coding system for image data (see figure 6); setting a plurality of variable length coding tables having different patterns of a regular region and an escape region according to statistical characteristics of said run, level data (see column 10, lines 14-40, column 13, lines 34-43, column 14, lines 1-35); selecting one of said plurality of variable-length coding tables according to intra/inter mode information of the currently processed block, zigzag scanning position and quantization step size (see column 10, lines 14-40, column 13, lines 34-43, column 14, lines 1-35, figures 3A, 3B, 6, column 8, lines 2-39); and variable-length coding the orthogonal transform coefficients according to said selected variable-length coding table (see figures 1, 2, 3A, 3B, 6).

Regarding claims 2 and 6, Keith further teaches that the selection step has the selection range of a plurality of variable-length coding tables having different patterns of a regular region and an escape region according to said intra/inter mode information of the currently processed block (see column 10, lines 14-40, column 13, lines 34-43, column 14, lines 1-35, figures 3A, 3B, 6, column 8, lines 2-39).

As to claims 3 and 7, Keith teaches that the variable length coding table is selected in accordance with said zigzag scanning position and quantization step size within the range determined by the corresponding mode (see column 10, lines 14-40, column 13, lines 34-43, column 14, lines 1-35, figures 3A, 3B, 6, column 8, lines 2-39).

Concerning claims 4 and 8, Keith additionally teaches that the data of said escape region of said variable length coding table is coded into data having variable run-length and level-length (see figures 2-7).

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Finally, with respect to claims 5-8, Keith further teaches an adaptive variable-length decoding method (see figures 1, 2, and 3A). Therefore, Keith meets each of the limitations of these claims and anticipates the claimed invention.


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lane et al. teaches HDTV and data compression.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Bijan Tadayon whose telephone number is (703) 308-7595. The fax number is (703) 308-5397.

B.T.

Dr. Bijan Tadayon
March 4, 1997


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